

## Claims

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

- 1 1. A method, for use in a virus-free certificate cache, of caching one or multiple virus-  
2 free certificates, each virus-free certificate certifying that a file is virus-free, said method  
3 comprising the steps of:  
4  
5 • receiving a virus-free certificate request for a file;  
6 • identifying the file in a cache table, said cache table comprising for each  
7 identified file one or a plurality of virus-free certificates;  
8 • selecting in the cache table one virus-free certificate for the identified file, using  
9 one or a plurality of anti-virus criteria;  
10 • retrieving from the cache table said selected virus-free certificate;  
11 • sending back in response to the virus-free certificate request the retrieved virus-  
12 free certificate .  
  
1 2. The method according to claim 1 wherein the virus-free certificate request comprises:  
2  
3 • a list of one or a plurality of anti-virus programs to execute on the file to  
4 determine whether the file is virus-free or not.  
  
1 3. The method according to claim 1 wherein the virus-free certificate request further  
2 comprises:  
3  
4 • an identification of the file.

1 4. The method according to the claim 1 wherein the virus-free certificate request further  
2 comprises:

- 3
- 4 • an identification of a virus-free certificate authority, said virus-free certificate  
5 authority having authority to generate virus-free certificates.

1 5. The method according to claim 1 wherein the virus-free certificate comprises:

- 2
- 3 • the list of the one or plurality of anti-virus programs that have been  
4 executed on the file.

1 6. The method according to claim 1 wherein the virus-free certificate further comprises:

- 2
- 3 • a virus-free certificate authority identification.

1 7. The method according to claim 1 wherein the step of selecting in the cache table one  
2 virus-free certificate for the identified file using one or a plurality of anti-virus criteria  
3 comprises the further steps of:

- 4
- 5 • comparing the list of one or a plurality of anti-virus programs comprised in each  
6 virus-free certificate associated with the identified file in the cache table with the list of  
7 one of a plurality of anti-virus programs comprised in the received virus-free /certificate  
8 request;

9

10 and where the list of one of a plurality of anti-virus programs comprised in a virus-free  
11 certificate associated with the identified file includes the list of one or a plurality of anti-  
12 virus programs comprised in the received virus-free certificate request:

- 13
- 14 • selecting said virus-free certificate.

1 8. The method according to claim 1 wherein the step of selecting in the cache table one  
2 virus-free certificate for the identified file using one or a plurality anti-virus criteria  
3 comprises the further steps of:

- 4
- 5 • comparing the virus-free certificate authority identification comprised in each  
6 virus-free certificate associated with the identified file in the cache table, and the virus-  
7 free certificate authority identification comprised in the received virus-free  
8 certificate request:  
9 and where the virus-free certificate authority identification comprised in a virus-free  
10 certificate associated with the identified file is identical to the virus-free certificate  
11 authority identification comprised in the received virus-free certificate request:  
12
  - 13 • selecting said virus-free certificate.

1 9. The method according to claim 1 wherein the step of identifying the file in a cache  
2 table comprises the further steps of:

3  
4 If the file is not identified in said cache table:

- 5
- 6 • forwarding the received virus-free certificate request to another virus-free  
7 certificate cache;
  - 8 • receiving a virus-free certificate in response to said forwarded virus-free  
9 certificate request;
  - 10 • sending back in response to the received virus-free certificate request, said  
11 received virus-free certificate.

1 10. The method according to claim 1 comprising the further step of:

2

- 3     •     receiving a request to update the cache table, said request comprising a virus-  
4           free certificate;
- 5     •     storing said virus-free certificate in the cache table.

1     11. The method according to claim 10 wherein the step of receiving a request to update  
2     the cache table comprises the further step of:

- 4     •     forwarding said request to another virus-free certificate cache.

1     12. The method according to claim 1 comprising the further step of:

- 3     •     discarding from the cache table the virus-free certificate which are no more  
4           valid.

1     13. The method according to claim 1 comprising the further steps of:

- 3     •     selecting in the cache table one or a plurality of virus-free certificates, using an  
4           information indicating for each virus-free certificate the date of the latest virus-  
5           free certificate request which has been received for said virus-free certificate;
- 6     •     discarding from the cache table said one or plurality of selected virus-free  
7           certificate.

1     14. The method according to claim 1 comprising the further steps of:

- 3     •     selecting in the cache table one or a plurality of virus-free certificate, using an  
4           information indicating for each virus-free certificate the number of virus-free  
5           certificate request which have been received for said virus-free certificate;
- 6     •     discarding from the cache table said one or a plurality of selected virus-free  
7           certificate Comprises.

1 15. The method according to claim 1 wherein the generated virus-free certificate  
2 comprises:  
3  
4 • a file signature for certifying that the file is declared a virus-free by the selected  
5 virus-free certificate authority.

1 16. The method according to claim 1 wherein the virus-free-certificate further comprises:  
2  
3 • a file identification;  
4 • a public key for decrypting the file signature;  
5 • a certificate signature for authenticating the virus-free certificate;  
6 • an indication of the virus-free certificate validity.

1 17. A system for caching one or more virus-free certificates within a LAN/WAN  
2 network, each virus-free certificate certifying that a file to be downloaded to a client is  
3 virus-free, said system comprising:  
4 a mechanism for receiving a request for a virus-free certificate associated with a file to be  
5 downloaded to said client;  
6 cache table device for storing one or more virus-free certificates for files, said cache table  
7 device including look-up mechanism for identifying one or more virus-free certificates  
8 associated with a requested file in a cache table; said look-up mechanism enabling  
9 selection of one virus-free certificate for the identified file using one or a plurality of anti-  
10 virus criteria; and,  
11 mechanism for retrieving from a cache table said selected virus-free certificate; and, in  
12 response to said request, returning a retrieved virus-free certificate with said file.

1 18. A program storage device readable by a machine, tangibly embodying a program of  
2 instructions executable by the machine to perform method steps for caching one or more  
3 virus-free certificates within a LAN/WAN network, each virus-free certificate certifying  
4 that a file to be downloaded to a client is virus-free, said method steps comprising:  
5 a) receiving a virus-free certificate request for a file;  
6 b) identifying the file in a cache table, said cache table comprising for each  
7 identified file one or plurality of virus-free certificates;  
8 c) selecting in the cache table one virus-free certificate for the identified file  
9 using one or a plurality of anti virus criteria; and,  
10 d) retrieving from the cache table said selected virus-free certificate and  
11 returning a retrieved virus-free certificate with said file.